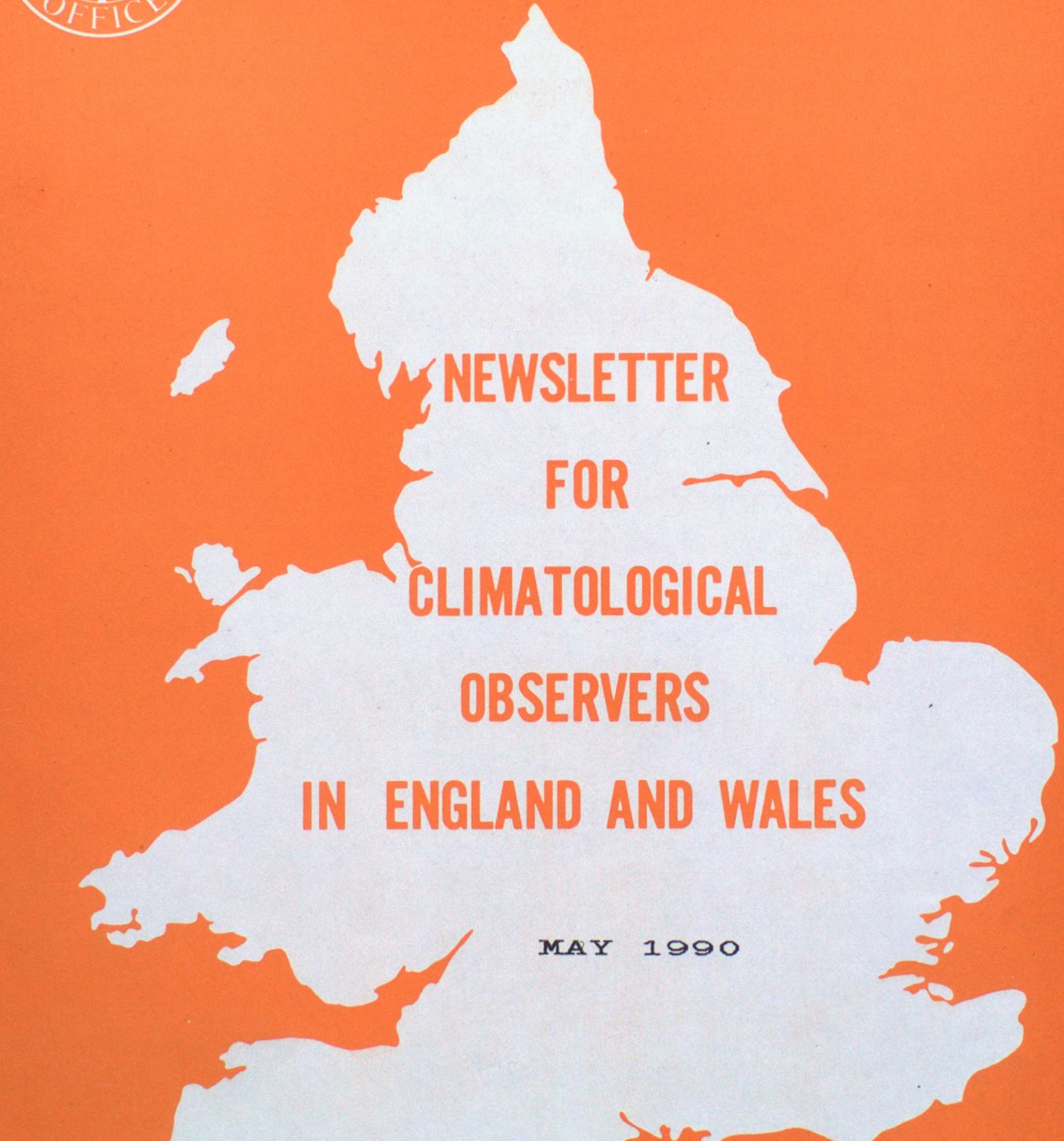
METEOROLOGICAL OFFICE



NEWSLETTER FOR CLIMATOLOGICAL OBSERVERS IN ENGLAND AND WALES

MAY 1990

THE METEOROLOGICAL OFFICE

NEWSLETTER

FOR

CLIMATOLOGICAL OBSERVERS

NO 19

MAY 1990

Produced by:

Meteorological Office
Observation Provision Branch
Climatological Station Management
Eastern Road
Bracknell
Berkshire
RG12 2UR

OBSERVERS NEWSLETTER - 19th Edition

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Editorial

Welcome to the 19th edition of the Climatological Observers Newsletter. This years issue has been delayed a few months so we can bring you news of the launch of Agency Status for the Meteorological Office together with some of the organizational changes affecting Branches you have contact with.

The Meteorological Office was formally established as an Executive Agency within the Ministry of Defence on 2 April 1990. The launch ceremony was held at the Met Office HQ at Bracknell where the Minister responsible for the Offices's affairs, Mr M Neubert MP, handed over the Framework Document to the new Chief Executive, Dr J T Houghton. The Framework Document defines the rules on which the Office is to be run. The launch was attended by 100 people including a cross section of staff together with some of the Office's customers.

Why has the Met Office become an Executive Agency ?.

As a Government funded organization the Met Office has always been under pressure to utilize public resources - money, staff and equipment - more efficiently. The Office was therefore seen as a good example which could benefit from the Governments 'Next Steps' initiative, which encourages the development of new ways of organizing activities in the pursuit of greater efficiency.

Of the available choices the new concept of 'Agency Status' - the giving of greater day-to-day autonomy to parts of government which provide services rather than create policy - seemed well matched to the Met Office.

How will these changes affect you, our co-operating observers ?.

The only changes you will notice will be as a result of an organisational review of the Office. The management of the Climatological Network will now come under the Observations Provision (OP) Branch (Surface Networks). Included under the OP Branch for the first time will be the Computer Data Archiving Section. In this Section are the Quality Control staff who scrutinize your returns (Metform 3208B) every month. Details of the new Branch structure and contact points can be found on pages 15 & 16 respectively.

Later this year we will be moving from accommodation at Eastern Road to the HQ to enable the majority of the OP Branch to be co-located. We will of course let you know when this move takes place.

R Brooks

NEWS OF STATIONS

Stations Closing

1.BRIDLINGTON (N.Humberside) - The Health Resort station at Bridlington closed at the end of March 1989 because of financial problems and difficulties in finding an alternative site.

2.BEAMINSTER (Dorset) - Due to the untimely death of the observer at Beaminster, Mr Theodore Naish, the station he ran at his home closed in March 1989.

3.NEWPORT, CLEPPA PARK (Gwent) - Staffing problems at this Field Research Station led to the closure of their climatological station at the end of March 1989.

4.LUDDINGTON (Warwicks) - Due to Government cutbacks, Luddington Experimental Horticulture Station closed at the end of November 1989. The closure of the station also resulted in the weather station, open since 1951. being disbanded.

5.ROSEWARNE (Cornwall) - Another station forced to close because of government cutbacks in November was the AgroMet station at Rosewarne, Experimental Horticulture Station. Records began at Rosewarne in 1953.

6.LUTON AIRPORT (Beds) - Construction work in close vicinity to the meteorological enclosure forced the closure of the climatological station at Luton Airport during October 1989.

7.STARCROSS (Devon) - The Agro Met station at Starcross closed in March 1990.

8.FAVERSHAM (Kent) - As with Luddington and Rosewarne, financial cutbacks resulted in the closure of the AgroMet station established at the Experimental Horticulture Station, Faversham. However there is a chance that the station will re-open later this year.

NEW STATIONS

During January 1989

1.SUNDERLAND POLYTECHNIC (Tyne & Wear) - A roof top site established by the Polytechnic and providing data to Newcastle Weather Centre on a daily basis.

2.NEWTOWN (Powys) - This station has been set up with the co-operation of the Montgomery College of Further Education (Agricultural Dept) at Fronlas Farm, Nr Newtown.

During April 1989

3.St IVES (Cornwall) - A Health Resort station has been established by the Hotel and Guest House Association at the Coastguard Lookout Station, St Ives.

4.ASHBOURNE (Derbyshire) - A private station run by Mr E Wood.

During May 1989

5.LLANGUNLLO (Powys) - A private station run by Mr C Morgan.

6.ST CLEARS (Dyfed) - A private station run by Mr & Mrs Thomas.

During June 1989

7.CIRENCESTER (Glos) - Established at the Royal Agricultural College, we were pleased to welcome this station back into the climatological network. Previous co-operation 1948-1973. Rainfall has been recorded at the station since 1875.

8.DELAMERE FOREST (Cheshire) - This station has been established with the co-operation of the Delamere Forest Outdoor Education Centre.

During July 1989

9. SIMONSBATH (Somerset) - A station established by South West Water Rivers Unit and run by Mr K J Jones.

10. BANBURY (Oxon) - A long established rainfall station run by Thames Water at Grimsbury Source Works began providing full climatological readings in July.

11. TALGARREG (Dyfed) - A private station run by Mr D Bennett.

12. SCOLTON COUNTRY PARK (Dyfed) - This new station is situated 5 miles north of Haverfordwest at the Scolton Manor Museum and Country Park.

During August 1989

13. SOUTH RAYNHAM (Norfolk) - This station has been set up with the assistance of Mr N Joice at his farm at South Raynham, Nr Fakenham.

14. CASTLE CARY (Somerset) - A private station run by Mr B Clothier.

15. WYCLIFFE HALL (Durham) - Established at the Wycliffe Hall Botanical Gardens this station is just over 4 miles north of Barnard Castle.

During September 1989

16. RANDWICK (Glos) - This station has been established with the assistance of The Rev. The Hon. N R Morrison and Mr A Dean at Randwick, Nr Stroud.

During October 1989

17. SOUTHWELL (Notts) - Set up at Brackenhurst College, this former rainfall station began providing full climatological readings in October.

18. WALTHAM CROSS (Middx) - This station replaces Southgate, Oakwood Park, which was forced to close because of persistent vandalism. With the assistance of the Borough Engineer and Surveyor's Dept, London Borough of Enfield the station has been moved approximately 4 miles NE, to Capel Manor, a Horticultural and Environmental Centre.

During November 1989

19. FELLSIDE (Cumbria) - With the co-operation of the staff at the Fellside Outdoor Education Centre a climatological station has been set up at approximately 950 feet above mean sea level on the northernmost part of the Lake District Hills.

During March 1990

20. NETHERCOTT (Shropshire) - A private station established with the co-operation of Mr & Mrs Lennox.

During April 1990

21. GLASTONBURY (Somerset) - An official climatological station has been established at St Dunstan's Community School.

22. KINGSCLERE (Hants) - A private station established with the co-operation of Mr & Mrs Tilley.

In addition to the stations listed above the following 16 stations should be operational this year.

Tondu (Mid Glamorgan)

Eynsford (Kent)

Bryn Mawr (Powys)

Withleigh (Devon)

Casterton (Cumbria)

Stoughton (Leics)

Ford Castle (Northumberland)

Salcombe (Devon)

Cymmer (W. Glamorgan)

Bourne (Lincs)

Rishworth (W. Yorks)

Bradeley Green (Shropshire)

Sleetbeck (Cumbria)

Melbourne (Humberside)

Codford (Wiltshire)

Lower Kingcombe (Dorset)

ADMINISTRATIVE CHANGES

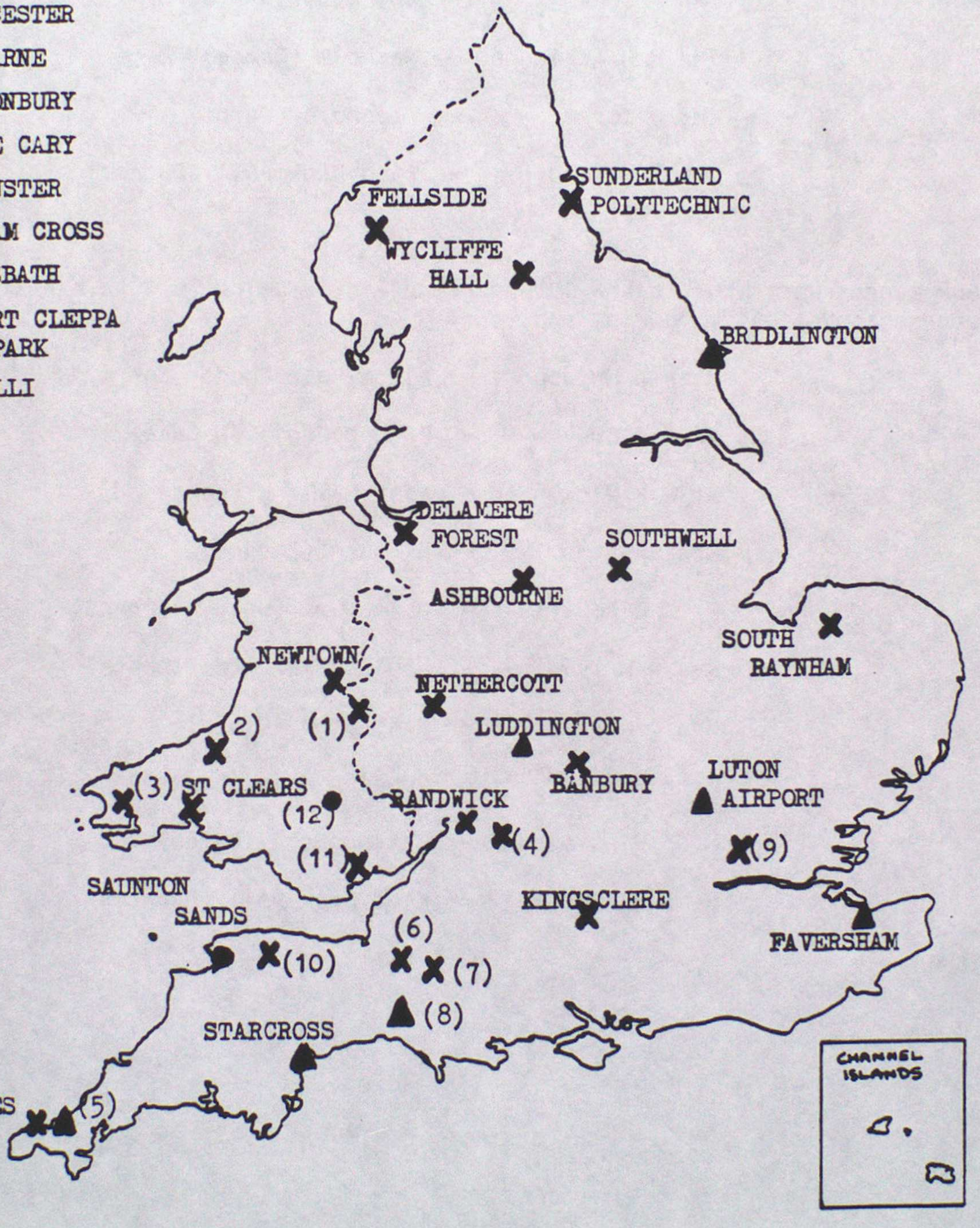
Administrative responsibility for the Health Resort station at Saunton Sands (Devon) has changed from the Auxiliary to the Climatological Station Network. This station provides climate data on a daily basis via the National Climatological Message.

Another administrative change this time going the opposite way (Climatological to Auxiliary Station Network) concerns the station at Pencelli (Powys). This station now makes more frequent observations which are used in real time by our forecasters, ie on the same day the observation is made.

THE MAP BELOW SHOWS THE STATIONS WHICH HAVE OPENED OR CLOSED SINCE THE LAST NEWSLETTER WAS ISSUED

Key to numbered stations

(1) = LLANGUNLLO
(2) = TALGARREG
(3) = SCOLTON COUNTRY PARK
(4) = CIRENCESTER
(5) = ROSEWARNE
(6) = GLASTONBURY
(7) = CASTLE CARY
(8) = BEAMINSTER
(9) = WALTHAM CROSS
(10) = SIMONSBATH
(11) = NEWPORT CLEPPA PARK
(12) = PENCELLI


SUNDERLAND POLYTECHNIC
FELLSIDE
WYCLIFFE HALL
BRIDLINGTON
DELAMERE FOREST
SOUTHWELL
ASHBOURNE
SOUTH RAYNHAM
NEWTOWN
NETHERCOTT
(1)
(2)
LUDDINGTON
BANBURY
LUTON AIRPORT
(3)
ST CLEARS
(12)
RANDWICK
(4)
(9)
(11)
SAUNTON SANDS
KINGSCLERE
FAVERSHAM
(6)
(10)
(7)
(8)
STARCROSS
ST IVES
(5)
CHANNEL ISLANDS

✖ = Station opened
▲ = Station closed
● = Administrative change

AWARDS TO OBSERVERS 1989

Congratulations to the following observers who received a book award in recognition of the high standards they have maintained at their stations over the past 15 years.

Mrs E A Sacree - Faversham (Kent)

Mr D M Roberts - Alwen Reservoir (Gwynedd)

Mr M F Wickenden - East Malling (Kent)

Mr K Cook - Low Etherley (Durham)

Mr M H Atkinson - Marholm (Cambs)

Mr D Iorns - Pershore (Worcs)

Mr I H Findlay - Widdybank Fell (Durham)

Book awards were made to the 10 observers listed below for the excellent returns they provided during the year.

Miss L Haydon - Alice Holt Lodge (Surrey)

Mr A E Sweeney - Bognor Regis (W Sussex)

Mr M F Wickenden - East Malling (Kent)

Mrs S Satterly - Exmouth (Devon)

Mr C G Roberts - Halesowen (West Midlands)

Mrs M M Islsley - Moulton Park (Northants)

Mrs J Evans - Prestatyn (Clwyd)

Mr K Spiers - Reading Univ (Berks)

Mr T H Hazelden - Whitechurch (Dyfed)

Mr I H Findlay - Widdybank Fell (Durham)

Royal Meteorological Society Field Study Courses on Weather

COURSES IN 1990

Weather Under Sail
Aboard the "Hoshi" **6-13 May** **£320 approx.**
Aboard the "Provident" **2-9 September** **£320 approx.**
Directed by Mr. Richard Ebling, Southampton Weather Centre
Run in conjunction with the Island Cruising Club

Sailing from Salcombe in Devon the course takes place either aboard the Club's 86ft classic Edwardian schooner "Hoshi", or aboard "Provident" – a 70ft former Brixham (ketch rigged) sailing trawler. Both boats have berths for 9-12 plus Course leader, Skipper and Mate and most importantly a full time Cook. The destination will be the waters of the English Channel, and you will learn notably about meteorology afloat sailing traditional gaff rigged boats, from measuring weather elements to influencing the ships course on the basis of your forecast.

Understanding Weather **3-10 August** **£165**
Malham Tarn Field Centre, Yorkshire
Directed by Dr. Keith Weston, University of Edinburgh
and Dr. David Warren

A course in which you are immersed in the weather and all things meteorological in beautiful surroundings 1300ft up in the Yorkshire Dales. A full week's programme of talks, outdoor work and films includes learning about weather satellites, a forecasting competition and the launching and tracking of hydrogen-filled balloons. Useful for GCSE teachers and students.

Mountain Weather **3-10 August** **£175**
Drapers' Field Centre, Betws-y-Coed, Gwynedd
Directed by Mr. Terry Spalding and Mr. Rodney Blackall, Meteorological Office

This is a course for all who like to roam in the hills. It consists of some lectures, do-it-yourself forecasting and field work amidst the beautiful scenery of Snowdonia.

Weather Science and Weather Forecasting **15-22 August** **residential – £185**
non-residential – £116
The Leonard Wills Field Centre, Nettlecombe Court, Somerset
Directed by Dr. Bob Riddaway and Dr. Geoff Jenkins, Meteorological Office

Sponsored by the Royal Meteorological Society – Do you have a lively curiosity and an interest in the weather? Would you like to find out about what causes the weather? Learn to make your own weather forecasts? Track weather balloons and carry out other outdoor experiments? Then this is the course for you.

Weather and Bird Migration **9-14 September** **£115**
Gibraltar Point Field Station, Skegness, Lincolnshire
Directed by Malcolm Walker and Al Venables, University of Wales College of Cardiff

This course is intended for bird-watchers who wish to study the ways in which migrations, populations and flight patterns of birds depend upon weather and climate. Much of each day is spent in the field; and the aim is chiefly to relate the species seen, and their numbers, to the current weather situation.

Weekend Courses:
Bird Watching Around Morecambe Bay **11-14 May** **£95**
Castle Head Field Centre, Grange-over-Sands, Cumbria
Directed by Malcolm Walker and Al Venables, University of Wales College of Cardiff

This course is for bird watchers who wish to learn more about the wading birds which pass through Britain in spring, and the influence of the weather on their migrations.

Understanding Mountain Weather **23-24 June** **£85 approx.**
13-14 October **£85 approx.**
Directed by Mr. D.J. George, formerly Cardiff Weather Centre,
in conjunction with the Sports Council

Weekend courses for those who go into the mountains for work or leisure, including leaders of parties and those working towards Mountain Leadership qualifications, Duke of Edinburgh award, and GCSE Meteorology, includes one field trip and informal lectures.
Bookings (including deposit of £30, deducted from course fee of £85) to:
National Centre for Mountain Activities, Plas-y-Brenin, Capel Curig, Gwynedd.

For further details on the above courses, please write, stating your specific interest, to:
The Executive Secretary, Royal Meteorological Society,
104 Oxford Road, Reading, Berkshire, RG1 7LJ

The following notes are taken from an article 'Notes on Weather Observing' produced by the Met Office at Edinburgh

GENERAL NOTES ON COMPLETING RETURNS

(METFORM 3208B)

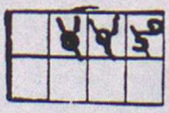
1. Only use black or dark blue ordinary ink or ball point. Avoid using felt tip pens if possible.

2. The figures and writing should be as clear and ledgible as possible: the open 4 should be used and 7 should not have a crossbar, thus 7.

3. Enter only one figure per box. Do not enter decimal points except in Totals and Means and the Monthly Summary.

4. If the readings are missed on any day leave the relevant boxes completely blank. Do not write across any of the columns or use brackets on the front of the form. All notes should be written either in the weather diary or in the Remarks at the back of the form.

5. Avoid sticking on bits of paper to the returns as they frequently become detached and get lost. If an error is made it can be corrected by either:-
   a) Scraping out the figure with a blade then entering the correct one.
   b) Score out the entry with one diagonal stroke across the box then enter the correct value in the same box e.g.



6. Please ensure the return is headed with the correct station number, hour, year and month.

USEFUL POINTS

1. **Wind** If the wind is calm, the entries for both direction and speed should be 00. A northerly wind is coded as 36 and not 00.

2. **Present Weather** If you have a choice of code figures, the highest applicable figure is to be selected but code figure 17 (thunderstorm, but no precipitation at the time of the observation) takes precedence over code figures 20-49.

3. **Temperature** There are three boxes provided for entering temperature values with an extra shaded box for entering the negative sign. If the value is less than 10°C always enter the leading zero.

   e.g. a value of 8.5°C is entered as ▨ 0 8 5

   and a value of -1.0°C is entered as X 0 1 0

   with the 'x' entered in the shaded column indicating a negative value.

   N.B. Remember to throw back the maximum temperature i.e. the value read today should be entered against yesterday's date.

4. **State of Ground** There are two columns for State of Ground.

   Column 53 is the State of Ground without snow cover at 0900.

   Column 54 is the State of Ground with snow cover at 0900

   After deciding which code figure is applicable enter this in the relevant column leaving the other column blank. If there is a choice of code figures always use the highest one with column 54 taking precedence over column 53.

5. **Depth of Snow** If the ground is ½ or more than ½ covered by snow at the time of observation, a snow depth should be entered - measured to the nearest WHOLE CENTIMETRE. If the depth is less than ½ cm, a trace should be recorded e.g.

A depth of 2½ cms is rounded to 3 and entered
A depth of ½ cm is rounded to 1 and entered
A depth of less than ½ cm is entered as a trace
(i.e. x is entered in column 55)

State of ground 9h		SNOW		
Snow or ice cover		Total depth centimetres		
without	with			
53	54	55	56	57
	6	0	0	3
	2	0	0	1
	2	X	0	0

6. **Rainfall** There are 4 boxes provided for rainfall. The faint zeros have been printed to simplify entry. Overwrite the zero with the value measured. If there has been no precipitation during the 24 hour period leave the zeros untouched.

e.g.

No precipitation - leave untouched
11.5 mm is entered as 115 in columns 59-61
A trace i.e. less than 0.05 mm is entered as an 'x' in column 58.

RAINFALL			
09-09h thrown back mm and tenths			
58	59	60	61
0	0	0	0
0	1	1	5
X	0	0	0

If you know precipitation has fallen in the preceding 24 hours but it has been too light to give a measurable amount, a trace should be recorded.

N.B. Remember to throw back the rainfall value
i.e. the amount measured today should be entered against yesterday's date.

7. **Run of Wind** These columns are only completed by stations with a cup counter anemometer.

There are 4 boxes provided for this entry and they should all be filled in e.g.

	RUN OF WIND			
	09-09h thrown back kilometres			
	62	63	64	65
A value of 30 should be entered as	0	0	3	0
A value of 150 should be entered as	0	1	5	0

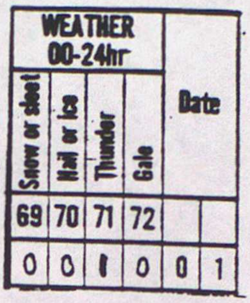
N.B. The value entered should be in WHOLE KILOMETRES and thrown back to previous day's date.

8. **Sunshine** There are 3 boxes provided for entering the sunshine value. The value entered is the sunshine from sunrise to sunset on that day and is measured in hours and tenths.

	SUNSHINE		
	Sunrise to sunset hrs and tenths		
	66	67	68
e.g. 10.5 hours of sunshine is entered as	1	0	5
0.1 hour of sunshine is entered as	0	0	1
0.0 hour of sunshine is entered as	0	0	0

9. Weather 00-24 There are 4 boxes provided for entering sleet or snow, hail, thunder or gales if any of these elements have been observed in the period midnight to midnight. A coded entry should be made on the appropriate date overwriting the faint zero.

e.g. If a thunderstorm was observed at midday on 1st of the month, this would be entered as 1 in column 71. The faint zeros in the other columns are left untouched if no other element was observed.



WEATHER 00-24hr				Date	
Snow or sleet	Hail or ice	Thunder	Gale		
69	70	71	72		
0	0	1	0	0	1

NEW RULES FOR THE RETENTION OF AUTOGRAPHIC CHARTS

When the Met Office moved to Bracknell in 1961 it set up an Archive Section for the permanent store of weather records; whilst the core of such records were measurements made by Met Office Staff the Archive also included any records it received from voluntary observers. With the recent change to Agency status the opportunity has been taken to clarify the objectives and the section is now called the National Meteorological Archive. Information is stored on magnetic tape in computer compatible form and in its original paper record.

SUNSHINE CARDS

Co-operating authorities and their observers should already know that all monthly climatological returns (form 3208B's, rainfall cards, radiation and snow survey forms) and station details are retained permanently as are the tabulated data extracted from autographic records. The autographic records themselves present considerable bulk and the Office has decided that only limited quantities of sunshine cards can be retained. The Office has surveyed the current stock and will be writing directly to stations whose data already form important long term records. At all other stations sunshine cards should be retained for 3 years after which they may be discarded.

ANEMOGRAMS & RAINFALL CHARTS

At those stations who tabulate anemograms or Tilting Syphon rain recorder charts for the Office it is requested that the original charts be sent to the Archives at regular time intervals of once every 5 years. Postage will be covered by the Office on request to the Climate Station Management Section.

AUTOGRAPHIC RECORDS COMMENCING BEFORE 1950

Whilst the Archive contains a modest number of tabulated records more than 70 years old it contains very few long term autographic records. If you, or your co-operating authority have long term original autographic records (commencing before 1950) that you still hold, please consider whether they could be transferred to the National Meteorological Archive. Enquiries on this topic may be sent in with your F3208B and marked for the Climate Station Management Section.

STAFF CHANGES

CLIMATOLOGICAL STATION MANAGEMENT

Following the retirement of Elwyn Edwards in December, George Spence has filled the vacant position. George joined the Office in 1966 after serving 6 years in the Merchant Navy. Served at Edinburgh, Stansted and London Heathrow as an observer and supervisor. Came to Bracknell in 1985 and worked in Personnel Management until taking up present post in January 1990.

After nearly 7 years helping look after the Climatological Network with first 'Dizzy' Allen and then Elwyn Edwards I to am moving on following promotion. I would like to take this opportunity to wish you all the very best for the future.

R Brooks

UNUSUAL READINGS AT TREDEGAR,GWENT (BRYN BACH PARK)

During the summer of '89 the observer at Tredegar, **John Dickinson**, was surprised to find some rain in the raingauge during a dry period. On closer examination he discovered the precipitation wasn't from the clouds but from their sheepdog who had been using the raingauge as a 'post' !!!. I wonder if any other observers have had similar problems ?.

UNUSUAL DISCOVERY AT KEW BOTANICAL GARDENS

Mr D Bowling, the observer at Kew, discovered a locking pin from an aircraft on the grass in the met enclosure in September.

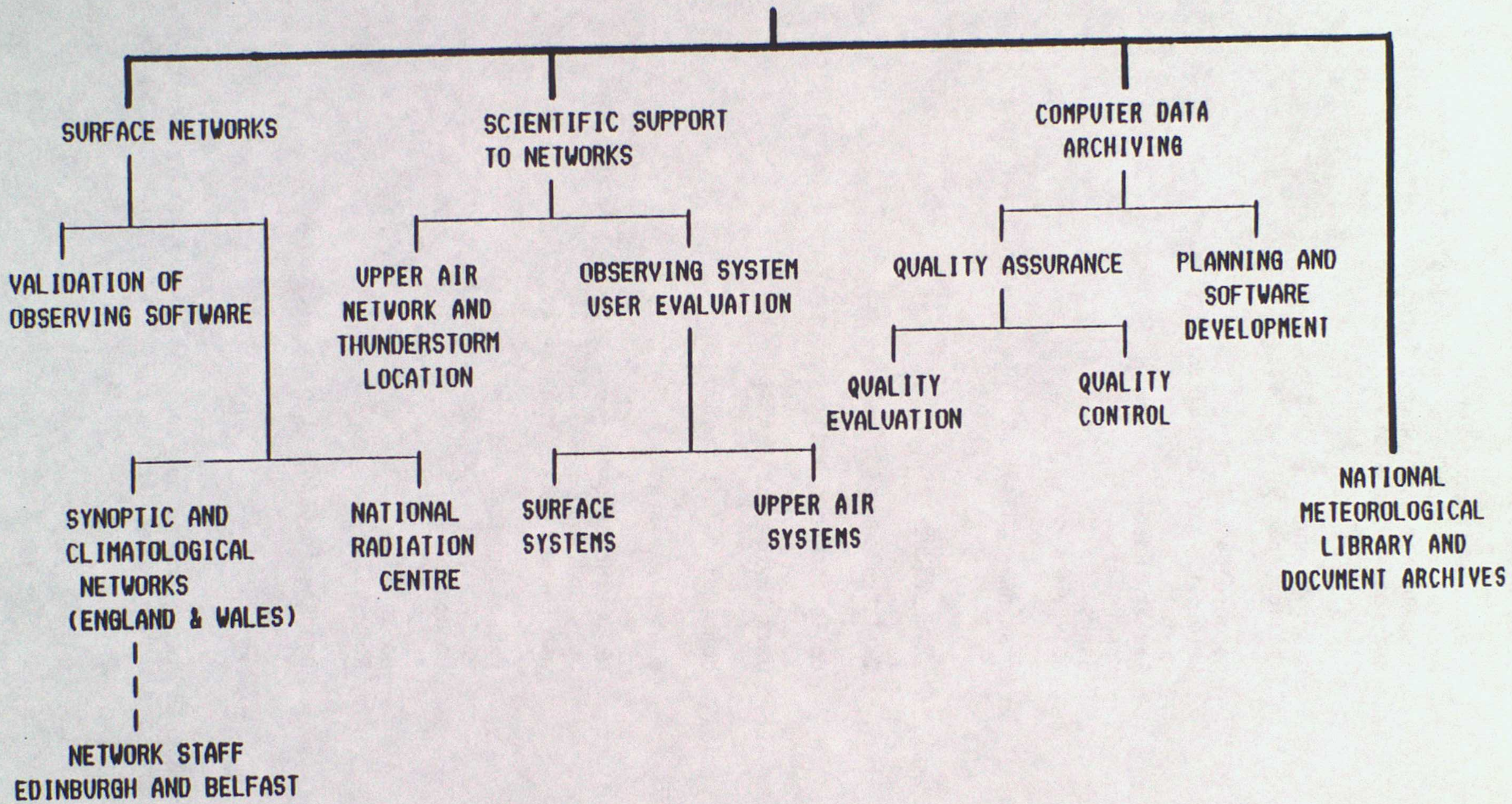
After ringing Heathrow Airport, an official retrieved the object.

The pin was approx 4 x 2 inches with a white tape attached (2 feet by 2 ins) with the following message on it 'REMOVE BEFORE FLIGHT'.!!!!

A serial number on the pin and tape will enable Heathrow to trace its origin.

OBSERVATION PROVISION BRANCH

BD(OP)


SURFACE NETWORKS
SCIENTIFIC SUPPORT TO NETWORKS
COMPUTER DATA ARCHIVING
NATIONAL METEOROLOGICAL LIBRARY AND DOCUMENT ARCHIVES
VALIDATION OF OBSERVING SOFTWARE
UPPER AIR NETWORK AND THUNDERSTORM LOCATION
OBSERVING SYSTEM USER EVALUATION
QUALITY ASSURANCE
PLANNING AND SOFTWARE DEVELOPMENT
QUALITY EVALUATION
QUALITY CONTROL
SYNOPTIC AND CLIMATOLOGICAL NETWORKS (ENGLAND & WALES)
NATIONAL RADIATION CENTRE
SURFACE SYSTEMS
UPPER AIR SYSTEMS
NETWORK STAFF EDINBURGH AND BELFAST

BRANCH STRUCTURE

2 April 1990

OBSERVATION PROVISION BRANCH

SURFACE NETWORKS GROUP

Section: Climatological Station Management

Function: Liaison with observers.
Queries on running a meteorological station.
Supplies of stationery, forms, equipment, sunshine cards, and pocket registers.
Site changes.

Staff: George Spence Ext 5906
Philip Doherty Ext 5907

Address: Meteorological Office
BD(OP) Climatological Station Management
Rm T11
Eastern Road
Bracknell
Berks
RG12 2UR

Telephone: Bracknell (0344) 85 plus extension for direct line.

COMPUTER DATA ARCHIVING GROUP

Section: Quality Control

Function: Collection and Quality Control of Climatological Data.

Staff: Jack Taylor - Ext 6819

John Holton - Ext 6821

plus 3 assistants

Walter Shackleton - Ext 6822
John Spafford - Ext 6823
Jan Lewandowski - Ext 6824

Address: Meteorological Office
BD(OP) Quality Control, Rm139
London Road
Bracknell
Berks
RG12 2SZ

Telephone: Bracknell (0344) 85 plus extension

If you wish to contact someone but are not sure of their extension you can go through the switchboard by dialing (0344) 420242 and ask the operator for assistance.

April 1990

WEATHER FEATURES - 1989

We were pleased to receive from a number of stations some interesting statistics on the weather at their stations during 1989.

At **ROTHAMSTED** (Herts) **Mr J Croft** said they had their sunniest May, 297.3 hrs, since records began in 1892 - previous best 296.7 hrs in 1909. July with 281.9 hrs was the sunniest since 1911.
August also broke all records with 272.7 hrs of sunshine - previous best 271.4 hrs in 1947.

Rainfall in May was the lowest on record (since 1853) with just 4.2mm beating the 12.2mm for that month in 1938.

Mr A J Hosking, the observer at **PENZANCE**, wrote in to let us know how the weather had been in his part of Cornwall. Here is a selection of his findings.

April - Second lowest Min temp for century - (0.2 Deg C on 8th)

May - Rainfall (6.4mm) lowest since records began in 1894: 3rd best mean Max for century.

June - Second highest Max temp (27.2 Deg C on 20th) this century.

July - Sunshine 3rd best for century - (292.9 hrs). Rain 4th lowest on record (15.6mm).

August - Sunshine 4th best for century (267.7 hrs); rainfall (42.5mm) only half of monthly average; everyday had some sunshine.

Mr K Spiers the observer at **READING UNIVERSITY** (Berks) sent in the following statistics.

SUMMERS 1971-1989 (June-August)

MEAN TEMP (Deg C)	**MEAN MAX TEMP** (Deg C)	**MEAN MIN TEMP** (Deg C)	**TOTAL RAIN** (mm)	**TOTAL SUN** (Hours)
1976 18.5	1976 24.7	1983 12.5	1976 78.5	1976 842.9
1983 18.0	1983 23.4	1976 12.2		1975 778.4
1989 17.5	1989 23.3	1982 12.0	7th lowest 1989	1989 733.1
		1989 11.8	(99.5)	

JUNE STATISTICS

The mean maximum temperature (21.1 Deg C) was the highest since 1976, and the 2nd highest since records began in 1904.

The months highest temperature, 29.2 Deg C, was the highest recorded since June 30th 1976.

The mean grass minimum for the month (5.3 Deg C) was the lowest since 1978.

The hours of bright sunshine was the highest since 1984.

From the Institute of Horticulture Research at **EAST MALLING** (Kent) **Mr M F Wickenden** has provided the following weather statistics from his station.

RECORDS BROKEN

(Previous records in brackets)

MEAN TEMP - May 1989, 13.9 Deg C, equal to 1917.

RAINFALL - May 1989, 2.4mm (11.2mm 1936) and 6th driest total for any month.

SUNSHINE - May 1989, 313.6 hrs (257.0 hrs 1922) and highest total recorded for any month (previous highest, 305.4 hrs June 1976).

- November 1989, 117.5 hrs (105.8 hrs 1971)

TEMPERATURE

Winter 1988/89 (Dec-Feb). Mean temp 6.6 Deg C and rates as their 2nd mildest. Mildest was 1974/75, mean temp of 6.8 Deg C).

Spring 1989 (March-May). Mean temp was 10.0 Deg C and rates as their 3rd mildest. Mildest 1943, 10.6 Deg C, 2nd mildest 1945, 10.4 Deg C.

Summer 1989 (June-August). Mean temp was 17.5 Deg C and rates as their 3rd hottest. Hottest 1976, 18.3 Deg C, 2nd hottest 1983, 17.8 Deg C.

SUNSHINE

Summer 1989 rates as their 3rd sunniest with 775.8 hrs. Sunniest 1976, 877.5 hrs, 2nd sunniest 1959, 788.6 hrs.

Their sunniest year was in 1949 - 1935.5 hrs. 1989 was their 3rd sunniest with 1877.2 hrs and this was achieved with their 2nd lowest December total (14.9 hrs). The 2nd sunniest was in 1959 with 1900.7 hrs .

RAINFALL

Driest year on record was 1921 with 330.4mm. 1989 was heading to be their 2nd or 3rd driest year until a wet December (115.8mm) left 1989 as their 7th driest year with a total of 540.2mm.

Some details of the weather at the climatological station at **CANWICK**, Nr Lincoln during 1989 have been sent in by **Christine Godfrey**.

Max Temperature - 31.6 Deg C on 22nd July.

Previous high spots were:- 32.0 on 26/06/1976
31.9 on 27/06/1976
31.7 on 08/08/1975

RAINFALL

Driest year was in 1964 (395.7mm). 1989 ranked as the 3rd driest year with 488.2mm.

WEATHER 1990

Mr A J Hughes from **LLANYMAWDDWY** (Powys) reported rainfall totals of 432.3mm and 410.9mm for January and February respectively - the highest for two successive months since he began rainfall readings in 1984.

THE MONTHLY WEATHER REPORT

All co-operating stations whose data is featured in the Monthly Weather Report (MWR) are eligible for a free copy of this monthly publication. To ensure this publication meets your requirements we would like to have your comments on the MWR.

Would you therefore please complete the questionnaire below, adding any comments you would like to make overleaf, and return it by attaching it to the next Monthly Return you are sending us.

To: Mr B Tonkinson
Publications Rm 131

1. I would like to receive the MWR in its present format. YES/NO*

If you answered NO to question 1 what would you like to receive in its place ?. The next page has been left blank for your comments.

2. Which parts of the MWR are of interest to you ?.

(a) Description of the months weather YES/NO

(b) Table 1 - District Values YES/NO

(c) Table 2 - Solar Radiation YES/NO

(d) Table 3 - Summary of daily observations YES/NO

If you answered YES to question (d) do you look at data from stations in just your county ?. YES/NO

(e) Table 4 - Summary of observations at fixed hours YES/NO

(f) Table 5 - Number of days with max and min temperatures between given limits YES/NO

(g) Table 6 - Summary of autographic records of wind YES/NO

From: Name..................... Station........................

* **Please delete as appropriate**

Please use this page if you have any comments to make on the Monthly Weather Report or to let us know what you would like to receive in its place.

Summary of the weather from October 1988 to October 1989

October 1988

Apart from the first few days, a short dry spell at mid month and a dry period at the end, the month was generally wet, with rain heavy at times. The dry spell at the end of the month was somewhat marred by a few showers near the east coast. Thunder occurred in many parts of England during the 6th and 12th and there was widespread hail on the 6th and 7th. The observer at Keyworth, Nottinghamshire reported that rainwater was cloudy and there was a dust deposit on cars on the 17th. There were further reports of dust deposits in south-east England on the 18th. On the 18th and 19th thunderstorms occurred over a wide area of England and Wales. On the 19th Aughton, Lancashire reported thunderstorms, severe at times, and heavy rain flooded parts of Liverpool and the Wirral with flood water 2 m deep in places; Crosby measured 82 mm of rain and Aigburth 42 mm in the day. Lightning interrupted power supplies at Stoke-on-Trent. The night of the 30th was the coldest in October at Sheffield, Weston Park, South Yorkshire for 33 years, when temperatures dropped to -1.4 °C.

November 1988

November was generally sunny and very dry in most places in England and Wales, particularly in the south; only widespread heavy rain on the 29th prevented the month from being exceptionally dry over England and Wales as a whole. It was the driest November since 1956 over Wales, although only slightly drier than 1983, and over England since 1978. The 4th was the sunniest November day recorded at Beaufort Park, Berkshire since 1965. The 10th was a very mild day for mid November with temperatures some 5 °C above normal. By contrast, on the 21st driving conditions were made hazardous by ice, sleet and rain as temperatures fell to -3 °C in England. By dawn on the 20th snow lay over much of England north of the Thames, with from 9 cm to 12 cm in some hilly areas. Much of Wales and south-west England had rain rather than snow. There were outbreaks of thunder on the 20th in east Kent. There were wintry showers during the next two days mainly in eastern coastal areas giving 15 cm of level snow in parts of eastern Kent and 10 cm in Yorkshire. Wingerworth, Derbyshire reported the sunniest November since records began at the station in 1970.

December 1988

After a dull wet start, clearer, showery weather spread to many areas between the 4th and 6th. Occasional rain affected many places on the 8th/9th but then it stayed mainly dry until the 16th. During the 18th/19th and on the 22nd rainfall was heavy locally in the north-west. Overnight on the 23rd/24th rain crossed North Wales, the north Midlands and East Anglia. Mild but mostly cloudy weather with rain or drizzle continued through the Christmas period, the rain heavy at times. For the rest of the month most areas stayed mainly dry and mild. Hampstead and Northwood, Greater London and Lyonshall, Hereford and Worcester reported the mildest December since 1974. Halesowen, West Midlands reported the second warmest December in 33 years of records, bettered only by 1974 and at Sheffield, Weston Park, South Yorkshire it was as mild as December 1934 in a record back to 1882.

Many places had a frost-free December, including Sheffield, where the last frost-free December occurred in 1972. In general most of the month's rain fell in the first five days. Much of the Thames Valley, and the area just south of it, received less than 4 mm of rain after the 4th. Hampstead reported the driest December since 1933, Lyonshall the driest since before 1947 and Northwood the driest for 30 years. On the 26th Bidston, Merseyside reported very heavy rain, with some local flooding. Bradford, West Yorkshire reported the sunniest December on record with 47 hours - the previous record was in 1926 (46 hours).

January 1989

It was a very mild month, the third successive month to have only about 50 per cent of average rainfall over England and Wales (varying between about 16 per cent in north-east England to 80 per cent in East Anglia) although the month itself was not exceptionally dry, January 1987 having been drier. In western Scotland it was one of the wettest Januarys on record: the persistence of moist south-westerly winds created strong contrasts in rainfall across Scotland, with up to three times the average over the Western Highlands and less than 10 per cent of normal in parts of Aberdeenshire. In Glen Shiel, on the road to Kyle of Lochalsh, one gauge recorded 855 mm while, in contrast, at Insch, north-west of Aberdeen there were only 6 mm. Thunder occurred on the 4th at a number of places in South Wales and the Bristol area and there were widespread reports of thunder on the 12th over north-west England. There were hail showers on the 21st, mostly in the Midlands and parts of southern England. Bradford, West Yorkshire reported that January was the warmest since 1975, the driest since 1953, and the sunniest on record. Ashover, Derbyshire had the driest January since records began in 1966.

February 1989

February was a rather changeable month with contrasting weather. Southern England, after a month of relatively high pressure recorded its lowest pressure for over a century on the 25th. As a result of the very wet January, rivers, lochs and reservoirs in the Scottish Highlands were already full to overflowing when exceptionally heavy rainfall occurred on 5 and 6 February. In the western Highlands rainfall was torrential and prolonged on both days, causing flooding and landslides. Bridges, roads, housing estates and farmland were affected over a wide area and the 127 year old railway bridge over the River Ness at Inverness was swept away by flood-water on the 7th. It was very windy, particularly in northern areas on the 13th. At Fraserburgh, Grampian Region a record gust for a low-level station of 123 kn was measured. It was a very mild month in most places; Ashover reported the warmest February, with a mean of 5.1 °C, since its records began in 1967. Hampstead, Greater London reported the highest mean temperature since 1966 and the highest mean maximum temperature equal with that of 1961. Bradford, West Yorkshire had the sunniest February on record at the station. Many northern areas had sleet and snow showers at times and southern areas had some snow and sleet early on the 17th. Snowfall was considerable across parts of Wales, the Peak District and the southern Pennines on the 24th, and on the 25th significant snow fell over many hilly areas including hills in southern and central England; there were 2-metre drifts in parts of the Cotswolds and Stow-on-the-Wold, Gloucestershire and Chipping Norton, Oxfordshire were cut off for two hours.

March 1989

After a somewhat cool, windy but bright start to the month, the weather continued unsettled and became generally milder, with rain, persistent and heavy at times, and brighter showery interludes. Much of East Anglia and south-east England had a very warm day on the 6th, one of the warmest early March days this century. On the 7th it was a few degrees colder nearly everywhere and as much as 9 °C lower in parts of East Anglia. Some sleet and snow fell on the 16th over England and Wales. Hail showers occurred as far south as the north Midlands on the 17th. Over several days from the 18th onwards there was further rain in all areas with some sleet and snow at times. Between the 20th and 23rd wintry conditions with snow and sleet and some hail pushed southwards, for a time reaching as far south as east Kent. After the 23rd the rest of the month became gradually more settled as high pressure became established over the near Continent. The 26th was a warm or very warm day over most of England and Wales and on the 27th the temperature reached 19.3 °C at Easthampstead, Berkshire; temperatures locally reached about 4 °C or 5 °C above average in parts of southern England and East Anglia on the 29th, becoming very warm in the extreme south-east of England.

April 1989

April was generally cool and unsettled, with rain or showers at times. The temperature of 15.1 °C at Hampstead, Greater London on the 1st was the lowest April maximum there since 1972. Snow occurred in many places in the first week, especially on the 5th with some reports of blizzard conditions over higher ground. Further snow occurred later in the north. Hail occurred occasionally, especially in the south, and was accompanied by thunder at times in southern and eastern England. On the 7th a golfer was struck by lighning at Southampton and badly burned. At Milford Haven, Dyfed a new record gust for April of 84 kn was recorded on the 11th, while Aberporth recorded a gust of 78 kn, the highest April gust there for over 50 years. On the 13th Halstead, Essex had a violent thunderstorm with heavy rain and hail causing local flooding; hail lay to a depth of 5 cm for a while. Broom's Barn reported that the afternoon temperature of 5.2 °C on the 24th was the lowest maximum recorded in the last 10 days of April since the station opened in 1963. At Oxford the mean monthly temperature was 1.3 °C below the normal; only 1903 and 1972 were lower in 109 years of records. Wingerworth, Derbyshire reported the wettest April for 20 years. Halesowen, West Midlands reported the lowest maximum since 1978 and the lowest night minimum since 1968. Coventry School (Bablake), Warwickshire reported the wettest April since 1920.

May 1989

May was warm, dry and very sunny generally, with many places measuring record amounts of sunshine. Most places south of a line from south Devon to north Norfolk measured in excess of 300 hours of sunshine during the month; the last time such a large area of the United Kingdom experienced sunshine totals of over 300 hours in May was probably in 1909. A marked dust devil was reported at Hurst Green near Oxted, Surrey during the afternoon of the

9th. It lifted garden furniture and raised a child's metal slide 4 metres into the air and carried it nearly 12 metres. Thunderstorms, sometimes accompanied by hail, developed over East Anglia on the 11th and 12th and north-west England and North Wales on the 19th when a flash flood at Halifax, West Yorkshire caused considerable damage. Unsettled thundery weather continued for the next few days. On the 23rd and 24th widespread thunderstorms with hail at times brought floods to central and southern England, the Midlands and northern areas; Easthampstead, Berkshire recorded hailstones up to 23 mm in diameter. On the 24th the temperature at Wyton, Cambridgeshire reached 28.4 °C, the hottest May day at the station since records began in 1954. The mean temperature at Hampstead, Greater London was the highest for May since records began there in 1909 and at Newtown Linford, Leicestershire the highest for May at the station for 25 years. North Wyke, Devon recorded its warmest May since the record began in 1960. Parts of eastern and southern England were particularly dry although local thundery outbreaks produced variable amounts of rain in places; for example Farnborough, Hampshire received 117 per cent of its May average, while London Weather Centre, 50 km away, had only 2 per cent. Central London had its driest May for about 300 years and over England and Wales as a whole it was the driest May since 1896. Many places in the south and east had less than 10 mm of rain. Worthing had the driest May since records started there in 1902. At Oxford, about 95 per cent of the month's rain fell during a thunderstorm on the 24th. Oxford reported the highest May sunshine amount (301 hours) in 110 years of record and the highest mean temperature since May 1952.

June 1989

Following the dry May, the long, dry and sunny spell in the middle of June gave the impression that the month as a whole was dry, particularly as much of the south-western third of England and Wales again had below average rainfall. However, unsettled spells early and late in the month resulted in above average rainfall in other areas, Merseyside being particularly wet, resulting in rainfall over England and Wales as a whole being only average. The first eight days of the month were dominated by cool showery weather. On the 5th and 6th, thundery showers became widespread and prolonged in some areas, particularly in a belt from Merseyside to south-east England; in the Gillingham area of Kent hailstones lay to a depth of several centimetres. On the 6th a tornado was reported near Brightlingsea, Essex. The weather was warmer and predominantly dry from the 9th to 12th. On the 13th a heavy, thundery downpour came to much of northern England and north-west Wales, with scattered outbreaks of rain in other western areas. All areas became dry on the 14th. Showers and thunderstorms occurred overnight on the 21st/22nd in parts of East Anglia and Kent. Otherwise it remained mainly dry until the 27th when the spell of dry weather which had in some places lasted 18 days came to an end, with particularly heavy and prolonged rain over North Wales and northern England; elsewhere many places had showers, with thunderstorms in eastern England, though dry weather spread from the west later. Further quite heavy rain fell on the 29th in several areas and on the 30th 20 mm to 30 mm fell over most of a belt from North Wales and Lancashire to Humberside, Lincolnshire and Norfolk, most falling again on Merseyside, including a heavy fall of 53 mm at Crosby, Merseyside.

July 1989

It was a sunny month everywhere with many places having the sunniest July for many years, and a generally dry month, although a few places accumulated above average rainfall in thundery downpours, rainfall amounts ranging from as little as 13 per cent above normal at Plymouth, Devon to as much as 162 per cent at Stansted, Essex. Most of the rain fell at the end of the first week and during the last few days of the month. During thundery weather on the 6th or early on the 7th, amounts of rain varied considerably but many places had heavy rain, with severe thunderstorms and flooding in several areas. The wettest day generally was the 6th, when daily falls included 64 mm at Yeovilton, Somerset, 52 mm at Stansted, Essex, 38 mm at Shoeburyness, Essex and 37 mm at Anvil Green, Kent; Portland Bill, Dorset had measurable rainfall only on the 6th, when 16.5 mm was measured after a thunderstorm, while on the same day hailstones of diameter 15 mm were reported at Sedgley, West Midlands. On the 7th 45 mm was measured at Burrington, Devon and 38 mm at Lyneham, Wiltshire. Hampstead reported the warmest July since 1883, with the highest minimum, 20.1 °C, second only to 1949 (20.4 °C on the 4th), in a record going back to 1909. On the 8th further thunderstorms developed over parts of East Anglia and south-east England; 37 mm of rain fell at Northolt, Greater London. Rainfall on the 29th marked the end of a long spell of dry weather in many places. While the south coast around Southampton still escaped measurable rainfall, most other areas had a few millimetres and in parts of South Wales and northern and eastern England larger amounts fell, thunderstorms giving more than 30 mm of rain over parts of Norfolk.

August 1989

The month was generally dry, a few places in the far south-east having only about a quarter of their average rainfall, although much of Cumbria and North Wales had above average rainfall. Some places in the vicinity of Southampton and the Isle of Wight had no measurable rain after 8 July. It was the sunniest August on record at some places, including Sheffield, Weston Park, South Yorkshire and Broom's Barn, Suffolk. Bournemouth, King's Park measured 298 hours of sunshine during the month, about 20 hours short of the 1976 total of 317 hours. Bognor, West Sussex had 294 hours, Swanage, Dorset 296 hours and Ryde, Isle of Wight measured 293 hours, all the sunniest since 1976. England and Wales as a whole had the sunniest August since 1976 and the driest and warmest since 1983. Very little rain fell during the first 8 days of the month, but between the 9th and 11th there was some rain everywhere, heavy in places and heavy showers or thunderstorms came to most areas on the 13th, with the heaviest rain in Cumbria and North Wales. Further heavy rain fell in some places on the 14th, accompanied by squalls and scattered thunderstorms; a tornado hit a holiday camp at Pwllheli, Gwynedd, ripping off the roofs of 150 timber-built chalets as well as causing extensive damage to other buildings. Much of England and Wales stayed dry from the 18th to late on the 24th, when northern England had some rain. There was rain in a band from North Wales to south-eastern England on the 25th. On the 26th and 27th there was some further showery rain, heavy locally in eastern England. The south-east was then mainly dry for the rest of the month, apart from some rain in the west overnight on the 28th/29th and in many places on the 30th.

September 1989

The weather was generally fairly settled, warm and dry, but less sunny in many areas than over the previous months. However the period from the 10th to 19th was unsettled with localized severe thunderstorms in the south between the 10th and 13th causing lightning damage and flooding. Areas hit included Kent early on the 10th, Devon and Dorset on the 11th, and south Devon on the 12th. Later on the 12th lightning struck and badly damaged houses in many parts of south-east England, including Wokingham, Berkshire where lightning struck the Ambulance headquarters, disrupting communications for a time. In Kent lightning left thousands of homes in Faversham and some other places without power and near Herne Bay a man was killed by lightning. Among the buildings struck was the Guildhall Museum at Rochester. Many rail services in Kent were disrupted, while rain caused a landslide on the railway at Ruscombe, Berkshire. Mean monthly temperatures were above normal in England and Wales but near normal in Scotland and Northern Ireland; the mean temperature over England and Wales was the highest since 1961, not so much because daytime temperatures were particularly notable, but rather because night-time temperatures were unusually high. Hampstead, Greater London reported the highest mean temperature since 1961, Northwood the highest since 1959 and 1961, Broom's Barn, Suffolk and Oxford the highest since 1949. Monthly rainfall amounts were below normal nearly everywhere, other than parts of Devon and Cornwall, where rainfall was just above average. Generally it was the driest September only since 1986. However, many places in eastern England had the driest September since 1969, and Durham and Tynemouth in the north-east had the driest September since 1898. Monthly sunshine totals were above normal in northern and eastern Scotland and north-eastern and central areas of England, and near or below normal elsewhere.

October

The weather was relatively quiet at the beginning of the month but became unsettled with some windy spells. However, between the 14th and 18th it was mainly dry in southern areas of Great Britain. From the 19th it was generally unsettled, with some very wet weather at times. Over Wales the 20th was probably the wettest day since 23 January; two people were killed and several had narrow escapes as gale-force winds and heavy rain disrupted traffic in western areas, brought down trees and caused widespread flooding. Later on the 20th and on the 21st England and Wales became very windy with gusts of more than 50 kn over southern counties of England and Wales including 63 kn at Sheerness, Kent and 69 kn at Portland Bill, Dorset. Many parts had a period of very heavy rain and strong winds on the 28th, with widespread gusts of more than 60 kn in the south-west with a peak gust of 88 kn at Portland Bill, and further heavy rain affected southern counties overnight on the 30th/31st. Mean monthly temperatures were above normal everywhere except northernmost parts of Scotland. Monthly rainfall totals were above normal nearly everywhere apart from parts of eastern and southern Scotland and parts of eastern England and East Anglia. Monthly sunshine amounts were about or below normal nearly everywhere.